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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XC172

Taking of Marine Mammals Incidental to Specified Activities; Construction at Orcas Island and Friday Harbor Ferry Terminals

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; proposed incidental harassment authorization; request for comments and information.

SUMMARY: NMFS has received a request from the Washington State Department of Transportation (WSDOT) Ferries Division (WSF) for an incidental take authorization to take small numbers of 11 species of marine mammals, by Level B harassment, incidental to proposed construction activities for the replacement of dolphin structures at the Orcas Island and Friday Harbor ferry terminals in Washington State. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an authorization to WSDOT to incidentally take, by harassment, small numbers of marine mammals for a period of 1 year.

DATES: Comments and information must be received no later than [insert date 30 days after date of publication in the FEDERAL REGISTER].

ADDRESSES: Comments on the application should be addressed to Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910-

3225. The mailbox address for providing email comments is itp.guan@noaa.gov. NMFS is not responsible for e-mail comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 10-megabyte file size.

Instructions: All comments received are a part of the public record and will generally be posted to http://www.nmfs.noaa.gov/pr/permits/incidental.htm without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

A copy of the application may be obtained by writing to the address specified above or visiting the internet at: http://www.nmfs.noaa.gov/pr/permits/incidental.htm. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Shane Guan, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined "negligible impact" in 50 CFR 216.103 as "...an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival."

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the U.S. can apply for a one-year authorization to incidentally take small numbers of marine mammals by harassment, provided that there is no potential for serious injury or mortality to result from the activity. Section 101(a)(5)(D) establishes a 45-day time limit for NMFS review of an application followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization.

Summary of Request

On May 25, 2012, WSDOT submitted a request to NOAA requesting an IHA for the possible harassment of small numbers of 11 marine mammal species incidental to construction associated with the replacement of dolphin structures at the Orcas Island and Friday Harbor ferry terminals in Washington State. On July 20, WSDOT submitted a

revised IHA application. The action discussed in this document is based on WSDOT's July 20, 2012, IHA application.

Description of the Specified Activity

Dolphins are structures located offshore that are used to guide the ferry into the terminal and hold it in place while docked. There are two types of dolphins common at WSF ferry terminals: timber and steel. Timber dolphins are older structures, typically constructed of creosote treated pilings lashed together by galvanized steel rope, and reinforced as needed with 13" plastic/steel core piles. WSF is systematically replacing timber dolphins with steel dolphins avoid future structure failures. Steel dolphins consist of reaction piles with a steel diaphragm, and larger fender piles with fender panels. Fender panels are made of ultra high molecular weight (UHMW) plastic, and act as rub surfaces for the ferry.

The proposed project is to replace a single timber dolphin with a new dolphin at the Orcas Island and two timber dolphins with new steel dolphins at the Friday Harbor Ferry Terminal.

Overview of the Planned Activities

The following construction activities are anticipated for the Orcas terminal:

- Remove one 69-pile dolphin (13-inch timber & plastic/steel-core piles/106 tons of creosote-treated timber) with a vibratory hammer or by direct pull and clamshell removal;
- Vibratory pile drive four 24- or 30-inch (final size to be determined) hollow steel reaction piles and three 36-inch hollow steel fender piles;
- Place precast concrete diaphragm on new dolphin;

- Attach fender panels to new fender piles; and
- Reposition one floating dolphin anchor.

The following construction activities are anticipated for the Friday Harbor terminal:

- Remove one 37-pile dolphin (13-inch timber piles/62 tons of creosote-treated timber) with a vibratory hammer or by direct pull and clamshell removal;
- Vibratory pile drive up to four 24- or 30-inch (final size to be determined) hollow steel reaction piles and one 36-inch hollow steel fender pile;
- Place precast concrete diaphragm on new dolphin;
- Attach fender panel to new fender pile;
- Remove one 102-pile dolphin (13-inch timber and plastic/steel-core piles/166 tons of creosote-treated timber) with a vibratory hammer or by direct pull and clamshell removal;
- Vibratory pile drive up to four 24- or 30-inch (final size to be determined) hollow steel reaction piles and four 36-inch hollow steel fender piles;
- Place precast concrete diaphragm on new dolphin; and
- Attach fender panels to new fender piles.

A total of 334 tons of creosote-treated timbers will be removed from the marine environment. The total mudline footprint of the existing dolphins is 256 square feet (ft^2). The total mudline footprint of the new dolphin will be 95 ft^2, a reduction of 161 ft^2. In addition, the footprint of the new steel dolphins will be more open, allowing fish movement between the piles. The new dolphins will have 20 piles, compared to the existing dolphins, which have 208 tightly clustered piles with no space between them.

In summary, the proposed project involves using a vibratory hammer to remove a total of 175 timber piles and using a vibratory hammer to install a total of 20 steel piles for the new dolphins.

Construction Activity Elements

1. Vibratory Hammer Removal

Vibratory hammer extraction is a common method for removing timber piling. A vibratory hammer is a large mechanical device mostly constructed of steel (weighing 5 to 16 tons) that is suspended from a crane by a cable. It is attached to a derrick and positioned on the top of a pile. The pile is then unseated from the sediments by engaging the hammer, creating a vibration that loosens the sediments binding the pile, and then slowly lifting up on the hammer with the aid of the crane.

Once unseated, the crane will continue to raise the hammer and pull the pile from the sediment. When the pile is released from the sediment, the vibratory hammer is disengaged and the pile is pulled from the water and placed on a barge for transfer upland. Vibratory removal will take approximately 10 to 15 minutes per pile.

2. Direct Pull and Clamshell Removal

Older timber pilings are particularly prone to breaking at the mudline because of damage from marine borers and vessel impacts and must be removed because they can interfere with the installation of new pilings. In some cases, removal with a vibratory hammer is not possible if the pile is too fragile to withstand the hammer force. Broken or damaged piles may be removed by wrapping the piles with a cable and pulling them directly from the sediment with a crane. If the piles break below the waterline, the pile stubs will be removed with a clamshell bucket, a hinged steel apparatus that operates like

a set of steel jaws. The bucket will be lowered from a crane and the jaws will grasp the pile stub as the crane pulled up. The broken piling and stubs will be loaded onto the barge for off-site disposal. Clamshell removal will be used only if necessary.

3 Vibratory Hammer Installation

Vibratory hammers are also commonly used in steel pile installation where sediments allow and involve the same vibratory hammer used in pile extraction. The pile is placed into position using a choker and crane, and then vibrated between 1,200 and 2,400 vibrations per minute. The vibrations liquefy the sediment surrounding the pile allowing the pile to penetrate to the required seating depth. The type of vibratory hammer that will be used for the project will likely be an APE 400 King Kong (or equivalent) with a drive force of 361 tons.

Sound Levels from Proposed Construction Activity

As mentioned earlier, the proposed construction project includes vibratory removal of 208, 13-inch timber and plastic-faced piles, and vibratory driving of 20 24-inch, 30-inch and 36-inch hollow steel piling.

No sound level data is available for 13-inch timber and plastic-faced piles. Based on in-water measurements at the WSF Port Townsend Ferry Terminal (Laughlin 2011a), removal of 12-inch timber piles generated 149 to 152 dB re 1 µPa (root-mean-square, or rms) with an overall average rms value of 150 dB re 1 µPa (rms) measured at 16 meters. A worst-case noise level for vibratory removal of 13-inch timber and plastic-faced piles will be 152 dB re 1 µPa (rms) at 16 m.

Based on in-water measurements at the WSF Friday Harbor Ferry Terminal, vibratory pile driving of a 24-inch steel pile generated 162 dB re 1 µPa (rms) measured at 10 meters (Laughlin 2010a).

Based on in-water measurements during a vibratory test pile at the WSF Port Townsend Ferry Terminal, vibratory pile driving of a 30-inch steel pile generated 170 dB re 1 µPa (rms) (overall average), with the highest measured at 174 dB re 1 µPa (rms) measured at 10 meters (Laughlin 2010b). A worst-case noise level for vibratory driving of 30-inch steel piles will be 174 dB re 1 µPa (rms) at 10 m.

Based on in-water measurements at the Port Townsend ferry terminal, vibratory pile driving of a 36" pile measured at 10 m generated 172 dB re 1 µPa (rms) (overall average), with the highest measured at 177 dB re 1 µPa (rms) (Laughlin 2010b). A worst-case noise level for vibratory driving of 36" steel piles will be 177 dB re 1 µPa (rms) at 10 m.

While in-air sounds are not applicable to cetaceans, they are to pinnipeds, especially harbor seals when hauled out. No unweighted in-air sound level data is available for 13-inch timber and plastic-faced pile removal, or for 24- or 36-inch vibratory pile driving. Unweighted in-air measurements of vibratory driving of a 30-inch steel pile collected during the 2010 Keystone Ferry Terminal Wingwalls Replacement Project ranged from 95 - 97.8 dB re 20 µPa (rms) at 50 ft. (Laughlin 2010b). Removal of 13-inch pile in-air noise levels will be conservatively assumed to be the same as pile

Using practical spreading model to calculate sound propagation loss, Table 1 provides the estimated distances where the received underwater sound levels drops to 120 dB re 1 µPa (rms), which is the threshold that currently used for determining Level B

behavioral harassment (see below) from non-impulse noise sources based on measurements of different pile sizes.

Table 1. Estimated distances where vibratory pile driving received sound levels drop to 120 dB re 1 µPa based on measurements of different pile sizes

Pile Size (inch)	Measured Source Levels	Distance to 120 dB re 1 µPa (rms) (km)
13	152 dB re 1 µPa (rms) @ 16 m	2.2
24	162 dB re 1 µPa (rms) @ 10 m	6.3
30	174 dB re 1 µPa (rms) @ 10 m	39.8
36	177 dB re 1 µPa (rms) @ 10 m	63.1

However, land mass is intersected before these distances are reached, except for vibratory pile removal. For the Orcas terminal, land is intersected at a maximum of 3.5 km (2.2 miles). For the Friday Harbor terminal, land is intersected at a maximum of 4.7 km (2.9 miles).

For airborne noise, currently NMFS uses an in-air noise disturbance threshold of 90 dB re 20 µPa (rms) (unweighted) for harbor seals, and 100 dB re 20 µPa (rms) (unweighted) for all other pinnipeds. Using the above aforementioned measurement of 97.8 dB re 20 µPa (rms) @ 50 ft, and attenuating at 6 dBA per doubling distance, in-air noise from vibratory pile removal and driving will attenuate to the 90 dB re 20 µPa (rms) within approximately 37 m, and the 100 dB re 20 µPa (rms) within approximately 12 m.

Dates, Duration, and Region of Activity

In-water construction is planned to take place between September 1, 2013, and February 15, 2014. The on-site work will last approximately 8 weeks with actual pile removal and driving activities taking place approximately 25% of that time.

The number of days it will take to remove and install the pilings largely depends on the condition of the piles being removed and the difficulty in penetrating the substrate

during pile installation. Duration estimates of each of the pile removal and pile driving elements follow:

- The daily construction window for pile removal or driving will begin no sooner than 30 minutes after sunrise to allow for initial marine mammal monitoring, and will end at sunset (or soon after), when visibility decreases to the point that effective marine mammal monitoring is not possible.
- Vibratory pile removal of the existing timber/plastic-faced piles will take approximately 10 to 15 minutes per pile. Vibratory removal will take less time than driving, because piles are vibrated to loosen them from the soil, and then pulled out with the vibratory hammer turned off. Assuming the worst case of 15 minutes per pile (with no direct pull or clamshell removal), removal of 69 piles at the Orcas terminal will take 17.2 hours over three days of pile removal. Removal of 139 piles at the Friday Harbor terminal will take 34.75 hours over five days of pile removal.
- Vibratory pile driving of the steel piles will take approximately 20 minutes per pile, with three to five piles installed per day. Assuming 20 minutes per pile, and three piles per day, driving of 7 piles at the Orcas terminal will take 2.3 hours over 2 days. Driving of 13 piles at the Friday Harbor terminal will take 4.3 hours over 5 days.

The total worst-case time for pile removal is 7 days, and for pile installation 10 days. The actual number of pile-driving days is expected to be less.

All work at the Orcas terminal will occur in water depths between -24.6 and -31.6 feet MLLW. At the Friday Harbor terminal all work will occur between -30 and -34 feet MLLW.

Description of Marine Mammals in the Area of the Specified Activity

The marine mammal species under NMFS jurisdiction most likely to occur in the proposed construction area include Pacific harbor seal (Phoca vitulina richardsi), California sea lion (Zalophus californianus), northern elephant seal (Mirounga angustirostris), Steller sea lion (Eumetopias jubatus), harbor porpoise (Phocoena phocoena), Dall's porpoise (Phocoenoides dalli), Pacific white-sided dolphin (Lagenorhynchus obliquidens), killer whale (Orcinus orca), gray whale (Eschrichtius robustus), humpback whale (Megaptera novaeangliae), and minke whale (Balaenoptera acutorostra).

General information on the marine mammal species found in California waters can be found in Caretta et al. (2011), which is available at the following URL: http://www.nmfs.noaa.gov/pr/pdfs/sars/po2010.pdf. Refer to that document for information on these species. Specific information concerning these species in the vicinity of the proposed action area is provided below.

Harbor Seal

Harbor seals are members of the true seal family (Phocidae). For management purposes, three separate harbor seal stocks are recognized along the west coast of the continental U.S. (Boveng 1988): (1) inland waters of Washington State (including Hood Canal, Puget Sound, Georgia Basin and the Strait of Juan de Fuca out to Cape Flattery), (2) outer coast of Oregon and Washington, and (3) California (Carretta et al. 2007a). Pupping seasons vary by geographic region. For the San Juan Island region, pups are born from June through August, and in southern Puget Sound pups are born from mid-July through September (Jeffries et al. 2000). However, recent observations by the Washington Department of Fish and Wildlife (WDFW) biologists reveal that harbor seal

pupping seasons in San Juan Island and Georgia Basin extend from June 1 to October 1 (WSDOT 2012). After October 1 all pups in the inland waters of Washington are weaned.

Of the four pinniped species that occur within the region of activity, harbor seals are the most numerous and the only one that breeds in the inland marine waters of Washington (Calambokidis and Baird 1994). In 1999, Jeffries et al. (2003) recorded a mean count of 9,550 harbor seals in Washington's inland marine waters, and estimated the total population to be approximately 14,600 animals (including the Strait of Juan de Fuca). The population across Washington increased at an average annual rate of 10 percent between 1991 and 1996 (Jeffries et al. 1997) and is thought to be stable (Jeffries et al. 2003). The Whale Museum/Marine Mammal Stranding Network estimates that approximately 4,000 seals are present in the San Juan Islands (Whale Museum 2012a).

Within the inland waters of Washington, there are numerous harbor seal haulout sites located on intertidal rocks, reefs, and islands. The nearest known haulout sites to the Orcas Island ferry terminal are Blind Island Rocks and Blind Island (approximately 1.2 and 1.4 km south of the Orcas terminal) and Bell Island (approximately 2.7 km west of the Orcas terminal). The nearest known haulout sites to the Friday Harbor ferry terminal are the intertidal rocks NE of Point George on Shaw Island (approximately 4 km and 4.7 km NE of the Friday Harbor terminal) offshore of Shaw Island (Figure 3-2). The number of harbor seals using these haulouts is less than 100 per haulout (WDFW 2000). The level of use of this haulout during the fall and winter is unknown, but is expected to be much less as air temperatures become colder than water temperatures resulting in seals in general hauling out less (WSDOT 2012).

Harbor seals are not considered to be "depleted" under the MMPA or listed as "threatened" or "endangered" under the ESA. The stock is also considered within its Optimum Sustainable Population level (Jeffries et al. 2003).

California Sea Lion

NMFS recognizes three stocks of California sea lion based on their geographic distribution: (1) the U.S. stock begins at the U.S./Mexico border and extends northward into Canada; (2) the Western Baja California stock extends from the U.S./Mexico border to the southern tip of the Baja California Peninsula; and (3) the Gulf of California stock, which includes the Gulf of California from the southern tip of the Baja California peninsula and across to the mainland and extends to southern Mexico (Lowry et al. 1992). California sea lions in the Washington State belong to the U.S. stock.

The U.S. stock was estimated at 238,000 in the 2010 Stock Assessment Report (SAR) and may be at carrying capacity, although more data are needed to verify that determination (Carretta et al. 2007a). The number of California sea lions in the San Juan Islands and the adjacent Strait of Juan de Fuca totaled fewer than 3,000 in the mid-1980s (Bigg 1985; Gearin et al. 1986). In 1994, it was reported that the number of sea lions had stabilized or decreased in some areas (Gearin et al. 1988; Calambokidis and Baird 1994). More recently, 3,000 to 5,000 animals are estimated to move into northwest waters (both Washington and British Columbia) during the fall (September) and remain until the late spring (May) when most return to breeding rookeries in California and Mexico (Jeffries et al. 2000; WSDOT 2012). Peak counts of over 1,000 animals have been made in Puget Sound (Jeffries et al. 2000).

In Washington, California sea lions use haulout sites within all inland water regions (Jeffries et al. 2000). The nearest documented California sea lion haulout sites to the Orcas and Friday Habor terminals are intertidal rocks and reef areas around Trial Island and Race Rocks near Victoria, B.C. (approximately 32/24 km west of the Orcas/Friday Harbor terminals, respectively). The number of California sea lions using these haulouts is less than 100 per haulout (WDFW 2000). Small numbers of sea lions may occasionally use navigation buoys in the San Juan Islands (WDFW 2000).

California sea lions were unknown in Puget Sound until approximately 1979 (Steiger and Calambokidis 1986). Everitt et al. (1980) reported the initial occurrence of large numbers at Port Gardner, just north of Everett (in northern Puget Sound), in the spring of 1979. The number of California sea lions using this area today number around 1,000 (WSDOT 2012). This haulout remains the largest in the state for sea lions in general and for California sea lions specifically (WSDOT 2012). Similar sightings and increases in numbers were documented throughout the region after the initial sighting in 1979 (Steiger and Calambokidis 1986), including urbanized areas such as Elliot Bay near Seattle and heavily used areas of central Puget Sound (Gearin et al. 1986). The movement of California sea lions into Puget Sound could be an expansion in range of a growing population (Steiger and Calambokidis 1986).

California sea lions do not avoid areas with heavy or frequent human activity, but rather may approach certain areas to investigate. This species typically does not flush from a buoy or haulout if approached.

California sea lions are not listed as endangered or threatened under the ESA or as depleted under the MMPA. They are not considered a strategic stock under the MMPA,

Northern Elephant Seal

Northern elephant seals are the largest pinniped found in Washington marine waters. Populations of northern elephant seals in the U.S. and Mexico are the result of a few hundred survivors remaining after hunting nearly led to the species' extinction (Stewart et al. 1994). Elephant seals present in the region of activity are considered part of the California breeding stock (Carretta et al. 2007a). Northern elephant seals breed and give birth primarily on islands off of California and Mexico from December through March (Stewart and Huber 1993; Carretta et al. 2007a). Typically, juveniles form new colonies and one or more females join to result in new haulout and rookery sites (Bonnell et al. 1991).

Northern elephant seal abundance estimates for inland Washington waters are not available due to the infrequency of sightings and the low numbers encountered (WSDOT 2012). Rough estimates suggest less than 100 individuals use the area annually (WSDOT 2012). Breeding rookeries are located on beaches and islands in California and Mexico (Jeffries et al. 2000). Historically, after their winter breeding season and annual molt cycles, individuals dispersed northward along the Oregon and Washington coasts and were present only on a seasonal basis. However, a few individuals are now found in Washington inland waters year-round.

Haulout areas are not as predictable as for the other species of pinnipeds. In total, WDFW has identified seven haulout sites in inland Washington waters used by this species. A few individuals use beaches at Protection Island (52/46 km south of the Orcas/Friday Harbor terminals, respectively) and Smith/Minor Islands (32/27 km south of the Orcas/Friday Harbor terminals) (WDFW 2000). Typically these sites have only

two to ten adult males and females, but pupping has occurred at all of these sites over the past ten years (WSDOT 2012). A single individual has been observed hauled out at American Camp on San Juan Island (NPS 2012), and at Shaw Island County Park on Shaw Island (Miller 2012).

Northern elephant seals are not listed as endangered or threatened under the ESA or as depleted under the MMPA.

Steller Sea Lion

Steller sea lions comprise two recognized management stocks (eastern and western), separated at 144º W longitude (Loughlin 1997). Only the eastern stock is considered here because the western stock occurs outside of the geographic area of the proposed activity. Breeding rookeries for the eastern stock are located along the California, Oregon, British Columbia, and southeast Alaska coasts, but not along the Washington coast or in inland Washington waters (Angliss and Outlaw 2007). Steller sea lions primarily use haulout sites on the outer coast of Washington and in the Strait of Juan de Fuca along Vancouver Island in British Columbia. Only sub-adults or non-breeding adults may be found in the inland waters of Washington (Pitcher et al. 2007).

The eastern stock of Steller sea lions is estimated to be between 48,519 and 54,989 individuals based on 2002 through 2005 pup counts (Angliss and Outlaw 2007). Washington's estimate including the outer coast is 651 individuals (non-pups only) (Pitcher et al. 2007). However, recent estimates are that 1,000 to 2,000 individuals enter the Strait of Juan de Fuca during the fall and winter months (WSDOT 2012).

Steller sea lions in Washington State decline during the summer months, which correspond to the breeding season at Oregon and British Columbia rookeries

(approximately late May to early June) and peak during the fall and winter months (Jeffries et al. 2000). A few Steller sea lions can be observed year-round in Puget Sound/Georgia Basin although most of the breeding age animals return to rookeries in the spring and summer.

For Washington inland waters, Steller sea lion abundances vary seasonally with a minimum estimate of 1,000 to 2,000 individuals present or passing through the Strait of Juan de Fuca in fall and winter months (WSDOT 2012, citing S. Jeffries pers. comm. 2008). However, the number of haulout sites has increased in recent years. Haulouts in the San Juan Islands include Green Point on Speiden Island (12/13 km northwest of the Orcas/Friday Harbor terminals, respectively), North Peapod Rock (15/23 km northeast of the Orcas/Friday Harbor terminals, respectively), Bird Rocks (18/19 km southeast of the Orcas/Friday Harbor terminals, respectively) and Whale Rock (17/11 km south of the Orcas/Friday Harbor terminals, respectively) (NMFS 2012).

Steller sea lions were listed as threatened range-wide under the ESA on November 26, 1990 (55 FR 49204). After division into two stocks, the western stock was listed as endangered under the ESA on May 4, 1997 and the eastern stock remained classified as threatened (62 FR 24345). In 2006 the NMFS Steller sea lion recovery team proposed removal of the eastern stock from listing under the ESA based on its annual rate of increase of approximately 3% since the mid-1970s.

On August 27, 1993, NMFS published a final rule designating critical habitat for the Steller sea lion (NMFS 1993). No critical habitat has been designated in Washington (NMFS 1993). Critical habitat is associated with breeding and haulout areas in Alaska, California, and Oregon (NMFS 1993).

Steller sea lions are listed as depleted under the MMPA. Both stocks are thus classified as strategic.

Harbor Porpoise

In the Northwest U.S., harbor porpoises are divided into two stocks: 1) the Washington Inland Waters Stock, and 2) the Oregon/Washington Coast Stock (Carretta et al. 2007b). The Washington Inland Waters Stock occurs in waters east of Cape Flattery (Strait of Juan de Fuca, San Juan Island Region, and Puget Sound). The Oregon/Washington Coast Stock extends from Cape Flattery, Washington south to Cape Blanco, Oregon. Although harbor porpoises have been spotted in deep water, they tend to remain in shallower shelf waters (<150 m) where they are most often observed in small groups of one to eight animals (Baird 2003).

Little information regarding food habits of the harbor porpoise is available for British Columbia or inland Washington waters (Hall 2004). What prey species have been documented include juvenile blackbelly eelpout, opal squid, Pacific herring, walleye pollock, Pacific hake, eulachon, and Pacific sanddab (Walker et al. 1998). Based on the results from Walker et al. (1998) and Hall (2004), harbor porpoises in British Columbia and Washington are opportunistic feeders, with prey species varying based on seasonal abundance. They also likely alter their spatial and temporal distributions based on prey availability.

The Washington Inland Waters Stock mean abundance estimate based on 2002 and 2003 aerial surveys conducted in the Strait of Juan de Fuca, San Juan Islands, Gulf Islands, and Strait of Georgia is 10,682 harbor porpoises (Carretta et al. 2007b). Abundance estimates of harbor porpoises for the Strait of Juan de Fuca and the San Juan

Islands in 1991 were approximately 3,300 animals (Calambokidis et al. 1993). Harbor porpoises were once considered common in southern Puget Sound (Scheffer and Slipp 1948); however, there has been a significant decline in sightings within southern Puget Sound since the 1940s (Everitt et al. 1980; Calambokidis et al. 1985, 1992; Carretta et al. 2007b).

Virtually no data are available to assess population trends in Puget Sound (Scheffer and Slipp 1948; Everitt et al. 1980; Calambokidis et al. 1985, 1992; Calambokidis and Baird 1994). No harbor porpoises were observed within Puget Sound proper during comprehensive harbor porpoise surveys (Osmek et al. 1994) or Puget Sound Ambient Monitoring Program (PSAMP) surveys conducted in the 1990s. Declines were attributed to gill-net fishing, increased vessel activity, contaminants, and competition with Dall's porpoise. However, Puget Sound populations appear to be rebounding with increased sightings in central (Carretta et al. 2007b) and southern (WDFW 2008) Puget Sound.

Harbor porpoises are common in the Strait of Juan de Fuca and south into Admiralty Inlet, especially during the winter, but are not at all common south of Admiralty Inlet. Harbor porpoises occur year-round and breed in the waters around the San Juan Archipelago and north into Canadian waters (Calambokidis and Baird 1994). Little information exists on harbor porpoise movements and stock structure near the Orcas and Friday Harbor terminals, although it is suspected that in some areas harbor porpoises migrate (based on seasonal shifts in distribution). For instance Hall (WSDOT 2012) found harbor porpoises off Canada's southern Vancouver Island to peak during late summer, while WDFW's PSAMP data show peaks in Washington water to occur during

the winter. Still, no additional evidence exists for migrations in the inland waters of Washington or British Columbia (Calambokidis and Baird 1994; Rosel et al. 1995). Hall (WSDOT 2012) found that the frequency of sighting of harbor porpoises decreased with increasing depth beyond 150 m with the highest numbers observed at water depths ranging from 61 to 100 m.

The harbor porpoise is not listed under the ESA and is classified as non-depleted under the MMPA.

Dall's Porpoise

Dall's porpoise occur in the North Pacific Ocean and is divided into two stocks: (1) California, Oregon, and Washington; and (2) Alaska (Carretta et al. 2007b). The segment of the population within Washington's inland waters was last assessed in 1996 by aerial surveys (Calambokidis et al. 1997). During a ship line-transect survey conducted in 2005, Dall's porpoise was the most abundant cetacean species off the Oregon and Washington coast (Forney 2007). Dall's porpoises are migratory and appear to have predictable seasonal movements driven by changes in oceanographic conditions (Green et al. 1992, 1993). This species is commonly seen in shelf, slope, and offshore waters (Carretta et al. 2007b).

The California, Oregon, and Washington stock mean abundance estimate of Dall's porpoises based on 2001 and 2005 ship surveys is 57,549 (Barlow 2003; Forney 2007). Within the inland waters of Washington and British Columbia, this species is most abundant in the Strait of Juan de Fuca east to the San Juan Islands. In 1994, Calambokidis and Baird (1994) estimated the Juan de Fuca population at 3,015 animals and the San Juan Island population at about 133 animals. Calambokidis et al. (1997)

estimated that 900 animals annually inhabited Washington's inland waters. Prior to the 1940s, Dall's porpoises were not reported in Puget Sound.

Dall's porpoises are migratory and appear to have predictable seasonal movements driven by changes in oceanographic conditions (Green et al. 1992, 1993), and are most abundant in Puget Sound during the winter (Nysewander et al. 2005; WDFW 2008). Despite their migrations, Dall's porpoises occur in all areas of inland Washington at all times of year (WSDOT 2012 citing J. Calambokidis pers. comm. 2006), but with different distributions throughout Puget Sound from winter to summer.

Dall's porpoise are not listed under the ESA and is classified as non-depleted under the MMPA.

Pacific White-sided Dolphin

Pacific white-sided dolphins are occasionally seen in the northernmost part of the Strait of Georgia and in western Strait of Juan de Fuca, but are generally only rare visitors to this area (Calambokidis and Baird 1994). This species is rarely seen in Puget Sound. Pacific white-sided dolphins have been documented primarily in deep, off-shore areas (Green et al. 1992, 1993; Calambokidis et al. 2004a).

The California, Oregon, and Washington stock mean abundance estimate based on the two most recent ship surveys is 25,233 Pacific white-sided dolphins (Forney 2007). This abundance estimate is based on two summer/autumn shipboard surveys conducted within 300 nautical miles of the coasts of California, Oregon, and Washington in 2001 and 2005 (Barlow 2003, Forney 2007). Surveys in Oregon and Washington coastal waters resulted in an estimated abundance of 7,645 animals (Forney 2007).

Fine-scale surveys in Olympic Coast slope waters and the Olympic Coast National Marine Sanctuary resulted in an estimated abundance of 1,196 and 1,432 animals, respectively (Forney 2007), but there are no population estimates for Washington's inland waters. During aerial surveys of Washington inland waters conducted under WDFW's PSAMP program between 1992 and 2008, only a single group of three Pacific white-sided dolphins was observed (summer 1995 in the Strait of Juan de Fuca), although Osborne et al. (1988) states they are regularly reported in the Strait of Juan de Fuca and Haro Strait. There are few records for Puget Sound.

Pacific white-sided dolphins have been reported to be regular summer and fall inhabitants of the Strait of Juan de Fuca and San Juan Islands (specifically Haro Strait) (Osborne et al. 1988), but extremely rare in Puget Sound.

Pacific white-sided dolphins are not listed under the ESA and are classified as non-depleted under the MMPA.

Killer Whale

Two sympatric ecotypes of killer whales are found within the proposed activity area: transient and resident. These types vary in diet, distribution, acoustic calls, behavior, morphology, and coloration (Baird 2000; Ford et al. 2000). The ranges of transient and resident killer whales overlap; however, little interaction and high reproductive isolation occurs among the two ecotypes (Barrett-Lennard 2000; Barrett-Lennard and Ellis 2001; Hoelzel et al. 2002. Resident killer whales are primarily piscivorous, whereas transients primarily feed on marine mammals, especially harbor seals (Baird and Dill 1996). Resident killer whales also tend to occur in larger (10 to 60

individuals), stable family groups known as pods, whereas transients occur in smaller (less than 10 individuals), less structured pods.

One stock of transient killer whale, the West Coast Transient stock, occurs in Washington State. West Coast transients primarily forage on harbor seals (Ford and Ellis 1999), but other species such as porpoises and sea lions are also taken (NMFS 2008a). Two stocks of resident killer whales occur in Washington State: the Southern Resident and Northern Resident stocks. Southern Residents occur within the activity area, in the Strait of Juan de Fuca, Strait of Georgia, and in coastal waters off Washington and Vancouver Island, British Columbia (Ford et al. 2000). Northern Residents occur primarily in inland and coastal British Columbia and Southeast Alaska waters and rarely venture into Washington State waters. Little interaction (Ford et al. 2000) or gene flow (Barrett-Lennard 2000; Barrett-Lennard and Ellis 2001; Hoelzel et al. 2004) is known to occur between the two resident stocks.

The West Coast Transient stock, which includes individuals from California to southeastern Alaska, was estimated to have a minimum number of 354 (NMFS 2010b). Trends in abundance for the West Coast Transients were unavailable in the most recent stock assessment report (Angliss and Outlaw 2007).

The Southern Resident stock was first recorded in a census in 1974, at which time the population comprised 71 whales. This population peaked at 97 animals in 1996, declined to 79 by 2001 (Center for Whale Research 2011), and then increased to 89 animals by 2006 (Carretta et al. 2007a). As of 2012, the population collectively numbers 84 individuals (Whale Museum 2012b).

Both West Coast Transient and the Southern Resident stocks are found within Washington inland waters. Individuals of both forms have long-ranging movements and thus regularly leave the inland waters (Calambokidis and Baird 1994).

Killer whales are protected under the MMPA of 1972. The West Coast Transient stock is not designated as depleted under the MMPA or listed as "threatened or "endangered" under the ESA. The Southern Resident stock is listed as an endangered distinct population segment (DPS) under the ESA. On November 29, 2006, NMFS published a final rule designating critical habitat for the Southern Resident killer whale DPS (71 FR 69054). Both Puget Sound and the San Juan Islands are designated as core areas of critical habitat under the ESA, but areas less than 20 feet deep relative to extreme high water are not designated as critical habitat (71 FR 69054). A final recovery plan for southern residents was published in January of 2008 (NMFS 2008a).

Gray Whale

Gray whales are recorded in Washington waters during feeding migrations between late spring and autumn with occasional sightings during winter months (Calambokidis et al. 1994, 2002; Orca Network 2011).

Early in the 20th century, it is believed that commercial hunting for gray whales reduced population numbers to below 2,000 individuals (Calambokidis and Baird 1994). After listing of the species under the ESA in 1970, the number of gray whales increased dramatically resulting in their delisting in 1994. Population surveys since the delisting estimate that the population fluctuates at or just below the carrying capacity of the species (~26,000 individuals) (Rugh et al. 1999; Calambokidis et al. 1994; Angliss and Outlaw 2007).

Within Washington waters, gray whale sightings reported to Cascadia Research and the Whale Museum between 1990 and 1993 totaled over 1,100 (Calambokidis et al. 1994). Forty-eight individual gray whales were observed in Puget Sound and Hood Canal in 2004 and 2005 (Calambokidis 2007). Abundance estimates calculated for the small regional area between Oregon and southern Vancouver Island, including the San Juan Area and Puget Sound, suggest there were 137 to 153 individual gray whales from 2001 through 2003 (Calambokidis et al. 2004b).

Gray whales migrate within 5 to 43 km of the coast of Washington during their annual north/south migrations (Green et al. 1995). Gray whales migrate south to Baja California where they calve in November and December, and then migrate north to Alaska from March through May (Rice et al. 1984; Rugh et al. 2001) to summer and feed. A very few gray whales are observed in Washington inland waters between the months of September and January, with peak numbers of individuals from March through May (WSDOT 2012 citing J. Calambokidis pers. comm. 2007). Peak months of gray whale observations in the area of activity occur outside the proposed work window of September through February. The average tenure within Washington inland waters is 47 days and the longest stay was 112 days (WSDOT 2012 citing J. Calambokidis pers. comm. 2007).

Although typically seen during their annual migrations on the outer coast, a regular group of gray whales annually comes into the inland waters at Saratoga Passage and Port Susan from March through May to feed on ghost shrimp (Weitkamp et al. 1992). During this time frame they are also seen in the Strait of Juan de Fuca, the San Juan Islands, and areas of Puget Sound, although the observations in Puget Sound are highly

variable between years (Calambokidis et al. 1994, 2002). In northern Puget Sound between Admiralty Inlet and the Edmonds/Kingston Ferry route, sightings of gray whales are more common and regular (Calambokidis et al. 1994, Orca Network 2011), although most all these sightings occur between March and May. Between January 2005 and February 2012, the Orca Network logged 13 sightings of gray whales in the September to February window proposed for the Orcas and Friday Harbor Ferry Terminal projects.

The Eastern North Pacific stock of gray whales was removed from listing under the ESA in 1994 after a 5-year review by NOAA Fisheries (Angliss and Outlaw 2007). In 2001 NOAA Fisheries received a petition to relist the stock under the ESA, but it was determined that there was not sufficient information to warrant the petition (Angliss and Outlaw 2007).

Humpback Whale

Few humpback whales have been seen in Puget Sound, but more frequent sightings occur in the Strait of Juan de Fuca and near the San Juan Islands. Most sightings are in spring and summer. Historically, humpback whales were common in inland waters of Puget Sound and the San Juan Islands (Calambokidis et al. 2002). In the early part of this century, there was a productive commercial hunt for humpbacks in Georgia Strait that was probably responsible for their long disappearance from local waters (Osborne et al. 1988). Since the mid-1990s, sightings in Puget Sound have increased. Between 1996 and 2001, Calambokidis et al. (2002) recorded only six individuals south of Admiralty Inlet. Between January 2005 and February 2012, the Orca Network logged 19 sightings of humpbacks in the September to February window proposed for the Orcas and Friday Harbor Ferry Terminal projects.

Humpback whales are listed as endangered under the ESA and depleted under the MMPA.

Minke Whale

The California/Oregon/Washington stock of minke whale is considered a resident stock, which is unlike the other Northern Pacific stocks of this species (NMFS 2008b). This stock includes minke whales within the inland Washington waters of Puget Sound and the San Juan Islands (Dorsey et al. 1990; Carretta et al. 2007b).

The number of minke whales in the California/Oregon/Washington stock is estimated between 500 and 1,015 individuals (Barlow 2003; Carretta et al. 2007b; NMFS 2008b). Over a 10-year period, 30 individuals were photographically identified in the transboundary area around the San Juan Islands and demonstrated high site fidelity (Dorsey et al. 1990; Calambokidis and Baird 1994). In a single year, up to 19 individuals were photographically identified from around the San Juan Islands (Dorsey et al. 1990).

Minke whales are reported in Washington inland waters year-round, although few are reported in the winter (Calambokidis and Baird 1994). Minke whales are relatively common in the San Juan Islands and Strait of Juan de Fuca (especially around several of the banks in both the central and eastern Strait), but are relatively rare in Puget Sound. Infrequent observations occur in Puget Sound south of Admiralty Inlet (Orca Network 2011). Between January 2005 and February 2012, the Orca Network logged 42 sightings of minke in the September to February window proposed for the Orcas and Friday Harbor Ferry Terminal projects.

Minke whales are not listed under the ESA and are classified as non-depleted under the MMPA.

Potential Effects of the Specified Activity on Marine Mammals

WSDOT and NMFS determine that open-water pile driving and pile removal associated with the construction activities at Orcas Island and Friday Harbor Ferry Terminal has the potential to result in behavioral harassment of marine mammal species and stocks in the vicinity of the proposed activity.

Marine mammals exposed to high intensity sound repeatedly or for prolonged periods can experience hearing threshold shift (TS), which is the loss of hearing sensitivity at certain frequency ranges (Kastak et al. 1999; Schlundt et al. 2000; Finneran et al. 2002; 2005). TS can be permanent (PTS), in which case the loss of hearing sensitivity is unrecoverable, or temporary (TTS), in which case the animal's hearing threshold will recover over time (Southall et al. 2007). Since marine mammals depend on acoustic cues for vital biological functions, such as orientation, communication, finding prey, and avoiding predators, marine mammals that suffer from PTS or TTS will have reduced fitness in survival and reproduction, either permanently or temporarily. Repeated noise exposure that leads to TTS could cause PTS.

Experiments on a bottlenose dolphin (Tursiops truncates) and beluga whale (Delphinapterus leucas) showed that exposure to a single watergun impulse at a received level of 207 kPa (or 30 psi) peak-to-peak (p-p), which is equivalent to 228 dB (p-p) re 1 μPa, resulted in a 7 and 6 dB TTS in the beluga whale at 0.4 and 30 kHz, respectively. Thresholds returned to within 2 dB of the pre-exposure level within 4 minutes of the exposure (Finneran et al. 2002). No TTS was observed in the bottlenose dolphin. Although the source level of pile driving from one hammer strike is expected to be much lower than the single watergun impulse cited here, animals being exposed for a prolonged

period to repeated hammer strikes could receive more noise exposure in terms of SEL than from the single watergun impulse (estimated at 188 dB re 1 μPa^2-s) in the aforementioned experiment (Finneran et al. 2002).

Currently, NMFS considers that repeated exposure to received noise levels at 180 dB and 190 dB re 1 μPa (rms) could lead to TTS in cetaceans and pinnipeds, respectively. For the proposed dolphin replacement work at Orcas Island and Friday Harbor Ferry Terminal, only vibratory pile driving would be used. Noise levels measured near the source of vibratory hammers (10 m and 16 m from the source, see above) are much lower than the 180 dB re 1 μPa (rms). Therefore, it is very unlikely that any marine mammals would experience TTS or PTS as a result of noise exposure to WSDOT's proposed construction activities at Orcas Island and Friday Harbor Ferry Terminal.

In addition, chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark et al. 2009). Masking can interfere with detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction.

Masking occurs at the frequency band which the animals utilize. Therefore, since noise generated from in-water vibratory pile driving and removal is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds by odontocetes (toothed whales). However, lower frequency man-made noises are more likely to affect detection of communication calls and other potentially important natural

sounds such as surf and prey noise. It may also affect communication signals when they occur near the noise band and thus reduce the communication space of animals (e.g., Clark et al. 2009) and cause increased stress levels (e.g., Foote et al. 2004; Holt et al. 2009).

Unlike TS, masking can potentially impact the species at population, community, or even ecosystem levels, as well as individual levels. Masking affects both senders and receivers of the signals and could have long-term chronic effects on marine mammal species and populations. Recent science suggests that low frequency ambient sound levels have increased by as much as 20 dB (more than 3 times in terms of SPL) in the world's ocean from pre-industrial periods, and most of these increases are from distant shipping (Hildebrand 2009). All anthropogenic noise sources, such as those from vessels traffic, pile driving, dredging, and dismantling existing bridge by mechanic means, contribute to the elevated ambient noise levels, thus intensify masking.

Nevertheless, the sum of noise from the proposed WSDOT construction activities is confined in an area that is bounded by landmass, therefore, the noise generated is not expected to contribute to increased ocean ambient noise. Due to shallow water depth near the ferry terminals, underwater sound propagation for low-frequency sound (which is the major noise source from pile driving) is expected to be poor.

Finally, exposure of marine mammals to certain sounds could lead to behavioral disturbance (Richardson et al. 1995), such as: changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities, changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or

jaw clapping), avoidance of areas where noise sources are located, and/or flight responses (e.g., pinnipeds flushing into water from haulouts or rookeries).

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be expected to be biologically significant if the change affects growth, survival, and reproduction. Some of these significant behavioral modifications include:

- Drastic change in diving/surfacing patterns (such as those thought to be causing beaked whale stranding due to exposure to military mid-frequency tactical sonar);
- Habitat abandonment due to loss of desirable acoustic environment; and
- Cease feeding or social interaction.

For example, at the Guerreo Negro Lagoon in Baja California, Mexico, which is one of the important breeding grounds for Pacific gray whales, shipping and dredging associated with a salt works may have induced gray whales to abandon the area through most of the 1960s (Bryant et al. 1984). After these activities stopped, the lagoon was reoccupied, first by single whales and later by cow-calf pairs.

The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography) and is also difficult to predict (Southall et al. 2007).

The proposed project area is not believed to be a prime habitat for marine mammals, nor is it considered an area frequented by marine mammals. Therefore,

behavioral disturbances that could result from anthropogenic noise associated with SF-OBB construction activities are expected to affect only a small number of marine mammals on an infrequent basis.

Currently NMFS uses 160 dB re 1 μPa (rms) at received level for impulse noises (such as impact pile driving, mechanic splitting and pulverizing) as the onset of marine mammal behavioral harassment, and 120 dB re 1 μPa (rms) for non-impulse noises (vibratory pile driving, saw cutting, drilling, and dredging). For the WSDOT's proposed Orcas Island and Friday Harbor ferry terminal dolphin replacement construction projects, only the 120 dB re 1 μPa (rms) threshold is considered because only vibratory pile removal and pile driving would be used.

As far as airborne noise is concerned, the estimated in-air source level from vibratory pile driving a 30-in steel pile is estimated at 97.8 dB re 1 μPa at 15 m (50 feet) from the pile (Laughlin 2010b). Using the spreading loss of 6 dB per doubling of distance, it is estimated that the distances to the 90 dB and 100 dB thresholds were estimated at 37 m and 12 m, respectively. The nearest pinniped haulout is 1 km away south of the Orcas Island terminal and 4 km northeast of the Friday Harbor ferry terminal offshore of Shaw Island.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammals habitat are associated with elevated sound levels produced by vibratory pile removal and pile driving in the area. However, other potential impacts to the surrounding habitat from physical disturbance are also possible.

Potential Impacts on Prey Species

With regard to fish as a prey source for cetaceans and pinnipeds, fish are known to hear and react to sounds and to use sound to communicate (Tavolga et al. 1981) and possibly avoid predators (Wilson and Dill 2002). Experiments have shown that fish can sense both the strength and direction of sound (Hawkins 1981). Primary factors determining whether a fish can sense a sound signal, and potentially react to it, are the frequency of the signal and the strength of the signal in relation to the natural background noise level.

The level of sound at which a fish will react or alter its behavior is usually well above the detection level. Fish have been found to react to sounds when the sound level increased to about 20 dB above the detection level of 120 dB (Ona 1988); however, the response threshold can depend on the time of year and the fish's physiological condition (Engas et al. 1993). In general, fish react more strongly to pulses of sound rather than non-pulse signals (such as noise from vessels) (Blaxter et al. 1981), and a quicker alarm response is elicited when the sound signal intensity rises rapidly compared to sound rising more slowly to the same level.

Further, during the coastal construction only a small fraction of the available habitat would be ensonified at any given time. Disturbance to fish species would be short-term and fish would return to their pre-disturbance behavior once the pile driving activity ceases. Thus, the proposed construction would have little, if any, impact on the abilities of marine mammals to feed in the area where construction work is planned.

Finally, the time of the proposed construction activity would avoid the spawning season of the ESA-listed salmonid species.

Water and Sediment Quality

Short-term turbidity is a water quality effect of most in-water work, including removing and installing piles. WSF will comply with state water quality standards during these operations by limiting the extent of turbidity to the immediate project area.

Roni and Weitkamp (1996) monitored water quality parameters during a pier replacement project in Manchester, Washington. The study measured water quality before, during, and after pile removal and pile replacement. The study found that construction activity at the site had "little or no effect on dissolved oxygen, water temperature, and salinity", and turbidity (measured in nephelometric turbidity units [NTU]) at all depths nearest the construction activity was typically less than 1 NTU higher than stations farther from the construction area throughout construction. Similar results were recorded during pile removal operations at two WSF ferry facilities. At the Friday Harbor terminal, localized turbidity levels (from three timber pile removal events) were generally less than 0.5 NTU higher than background levels and never exceeded 1 NTU. At the Eagle Harbor maintenance facility, local turbidity levels (from removal of timber and steel piles) did not exceed 0.2 NTU above background levels. In September 2004, water quality monitoring conducted at the Friday Harbor Ferry Terminal during three pile-removal events showed turbidity levels did not exceed 1 NTU over background conditions and were generally less than 0.5 NTU over background levels. In general, turbidity associated with pile installation is localized to about a 25-foot radius around the pile (Everitt et al. 1980).

Cetaceans are not expected to be close enough to the Orcas Island and Friday Harbor ferry terminals to experience turbidity, and any pinnipeds will be transiting the

terminal areas and could avoid the localized areas of turbidity. Therefore, the impact from increased turbidity levels is expected to be discountable to marine mammals. Removal of the timber dolphins at Orcas Island and Friday Harbor ferry terminal will result in 197 creosote-treated piles (334 tons) removed from the marine environment. This will result in the potential, temporary and localized sediment re-suspension of some of the contaminants associated with creosote, such as polycyclic aromatic hydrocarbons. However, the actual removal of the creosote-treated wood piles from the marine environment will result in a long-term improvement in water and sediment quality, meeting the goals of WSF's Creosote Removal Initiative started in 2000. The net impact is a benefit to marine organisms, especially toothed whales and pinnipeds that are high in the food chain and bioaccumulate these toxins. This is especially a concern for long-lived species that spend their entire life in Puget Sound, such as Southern Resident killer whales (NMFS 2008a).

Passage Obstructions

Pile removal and installation operations at the Orcas Island and Friday Harbor ferry terminals will not obstruct movements of marine mammals. The operations at Orcas Island will occur within 75 m of the shoreline leaving 1 km of the channel for marine mammals to pass. At Friday Harbor, operations will occur within 160 m of the shoreline leaving 0.4 km of the harbor for marine mammals to pass. Further, a construction barge will be used to remove and install the pilings.

Potential Impacts on Availability of Affected Species or Stock for Taking for Subsistence Uses

No subsistence harvest of marine mammals occur in the proposed action area.

Proposed Mitigation Measures

In order to issue an incidental take authorization under Section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable adverse impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses.

For the proposed Orcas Island and Friday Harbor ferry terminals dolphin replacement construction work, WSDOT proposed the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity. These mitigation measures would be employed during all pile removal and installation activities at the Orcas Island and Friday Harbor ferry terminals. The language in monitoring measures would be included in the Contract Plans and Specifications and must be agreed upon by the contractor prior to any pile activities.

Since the measured source levels (at 10 and 16 m) of the vibratory hammer involved in pile removal and pile driving are below NMFS current thresholds for Level A takes, i.e., below 180 dB re 1 μPa (rms), no exclusion zone would be established, and there would be no required power-down and shutdown measures. Instead, WSDOT would establish and monitor the 120 dB re 1 μPa (rms) zone of influence (ZOI, see below Proposed Monitoring and Reporting section).

One major mitigation measure for WSDOT's proposed pile removal and pile driving activities is ramping up, or soft start, of vibratory pile hammers. The purpose of

this procedure is to reduce the startling behavior of marine mammals in the vicinity of the proposed construction activity from sudden loud noise.

Soft start requires contractors to initiate the vibratory hammer at reduced power for 15 seconds with a 1 minute interval, and repeat such procedures for an additional two times.

In addition, monitoring for marine mammal presence will take place 20 minutes before, during and 30 minutes after pile driving to ensure that marine mammals are not injured by the proposed construction activities (see Proposed Monitoring and Reporting section below).

Finally, if the number of any allotted marine mammal takes (see Estimated Take by Incidental Harassment section below) reaches the limit under the IHA (if issued), WSDOT will implement shutdown and power down measures if such species/stock of animal approaches the 120 dB Level B harassment zone.

Proposed Monitoring and Reporting

In order to issue an ITA for an activity, Section 101(a)(5)(D) of the MMPA states that NMFS must set forth "requirements pertaining to the monitoring and reporting of such taking". The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present in the proposed action area.

Proposed Monitoring Measures

The monitoring plan proposed by WSDOT can be found in its IHA application. The plan may be modified or supplemented based on comments or new information received from the public during the public comment period. A summary of the primary components of the plan follows.

(1) Protected Species Observers (PSOs)

WSDOT will employ qualified protected species observers (PSOs) to monitor the 120 dB re 1 μPa (rms) for marine mammals. Qualifications for marine mammal observers include:

- Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars may be necessary to correctly identify the target.
- Advanced education in biological science, wildlife management, mammalogy or related fields (Bachelors degree or higher is preferred), but not required.
- Experience or training in the field identification of marine mammals (cetaceans and pinnipeds).
- Sufficient training, orientation or experience with the construction operation to provide for personal safety during observations.
- Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area as necessary.
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).

- Writing skills sufficient to prepare a report of observations that would include such information as the number and type of marine mammals observed; the behavior of marine mammals in the project area during construction, dates and times when observations were conducted; dates and times when in-water construction activities were conducted; and dates and times when marine mammals were present at or within the defined ZOI.

(2) Monitoring Protocols

PSOs will be present on site at all times during pile removal and driving. Marine mammal behavior, overall numbers of individuals observed, frequency of observation, and the time corresponding to the daily tidal cycle will be recorded.

WSF proposes the following methodology to estimate marine mammals that were taken as a result of the proposed Orcas Island and Friday Harbor ferry terminal construction work:

- A range finder or hand-held global positioning system device will be used to ensure that the 120 dB re 1 μPa (rms) Level B behavioral harassment ZOI is monitored.
- A 20-minute pre-construction marine mammal monitoring will be required before the first pile driving or pile removal of the day. A 30-minute post-construction marine mammal monitoring will be required after the last pile driving or pile removal of the day. If the constructors take a break between subsequent pile driving or pile removal for more than 30 minutes, then additional pre-construction marine mammal monitoring will be required before the next start-up of pile driving or pile removal.

- If marine mammals are observed, the following information will be document:
  - Species of observed marine mammals;
  - Number of observed marine mammal individuals;
  - Behavioral of observed marine mammals;
  - Location within the ZOI; and
  - Animals' reaction (if any) to pile-driving activities.
- During vibratory pile removal and driving, one land-based biologist will monitor the area from the terminal work site, and one boat with a qualified PSO shall navigate the ZOI in a circular path.
- In addition, WSDOT will contact the Orca Network and/or Center for Whale Research to find out the location of the nearest marine mammal sightings. Sightings are called or emailed into the Orca Network and immediately distributed to other sighting networks including: the Northwest Fisheries Science Center of NOAA Fisheries, the Center for Whale Research, Cascadia Research, the Whale Museum Hotline, and the British Columbia Sightings Network.
- Marine mammal occurrence information collected by the Orca Network also includes detection by the following hydrophone systems: (1) The SeaSound Remote Sensing Network, a system of interconnected hydrophones installed in the marine environment of Haro Strait (west side of San Juan Island) to study killer whale communication, underwater noise, bottomfish ecology, and local climatic conditions, and (2) A hydrophone at the Port Townsend Marine

Science Center that measures average underwater sound levels and automatically detects unusual sounds.

NMFS has reviewed the WSDOT's proposed marine mammal monitoring protocol, and has determined the applicant's monitoring program is adequate, particularly as it relates to assessing the level of taking or impacts to affected species. The land-based PSO is expected to be positioned in a location that will maximize his/her ability to detect marine mammals and will also utilize binoculars to improve detection rates. In addition, the boat-based PSO will cruise within the 120 dB ZOI, which is not a particularly large zone, thereby allowing him/her to conduct additional monitoring with binoculars. With respect to WSDOT's take limits, NMFS is primarily concerned that WSDOT could reach its Southern Resident killer whale limit. However, killer whales have large dorsal fins and can be easily spotted from great distances. Further, Southern Resident killer whales typically move in groups which makes visual detection much easier. In addition, added underwater acoustic monitoring by Orca Network in the region would further provide additional detection, since resident killer whales are very vocal.

Proposed Reporting Measures

WSF will provide NMFS with a draft monitoring report within 90 days of the conclusion of the proposed construction work. This report will detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed.

If comments are received from the NMFS Northwest Regional Administrator or NMFS Office of Protected Resources on the draft report, a final report will be submitted

to NMFS within 30 days thereafter. If no comments are received from NMFS, the draft report will be considered to be the final report.

Estimated Take by Incidental Harassment

As mentioned earlier in this document, a worst-case scenario for the Orcas Island ferry terminal project assumes that it may take 3 days to remove the existing piles and 2 days to install the new piles. The maximum total number of hours of pile removal activity is about 17.2 hours, and pile-driving activity is about 2.3 hours (averaging about 3.9 hours of active pile removal/driving for each construction day).

A worst-case scenario for the Friday Harbor ferry terminal project assumes that it may take 5 days to remove the existing piles and 5 days to install the new piles. The maximum total number of hours of pile removal activity is about 34.75 hours, and pile-driving activity is about 4.3 hours (averaging about 3.9 hours of active pile removal/driving for each construction day).

Also, as described earlier, for non-impulse noise, NMFS uses 120 dB re 1 μPa (rms) as the threshold for Level B behavioral harassment. The distance to the 120 dB re 1 μPa (rms) isopleth due to vibratory pile driving for the Orcas Island ferry terminal project extends a maximum of 3.5 km (2.2 miles) before land is intersected. For the Friday Harbor ferry terminal project, land is intersected at a maximum of 4.7 km (2.9 miles). To simplify the establishment of the 120 dB re 1 μPa (rms) zone of influence (ZOI) for monitoring, vibratory timber pile removal will conservatively be assumed to extend the same distances as vibratory pile driving. Both of these areas will be monitored during construction to estimate actual harassment take of marine mammals (see below).

Airborne noises can affect pinnipeds, especially resting seals hauled out on rocks or sand spits. The airborne 90 dB re 20 µPa Level B threshold for hauled out harbor seals was estimated at 37 m, and the airborne 100 dB Level B re 10 µPa threshold for all other pinnipeds is estimated at 12 m. This is much closer than the distance to the nearest harbor seal haulout site for the Orcas Island ferry terminal (1 km) and Friday Harbor ferry terminal (4 km).

Incidental take is estimated for each species by estimating the likelihood of a marine mammal being present within a ZOI during active pile driving and removal. Expected marine mammal presence is determined by past observations and general abundance near the Orcas Island and Friday Harbor ferry terminals during the construction window. Typically, potential take is estimated by multiplying the number of animals likely to be present in the action area by the estimated number of days pile removal and pile driving would be conducted. Since there are no density estimates for any Puget Sound population of marine mammal, numbers of marine mammal presence are estimated using local marine mammal data sets (e.g., Orca Network, state and federal agencies), opinions from state and federal agencies, incidental observations from WSF biologists, and the duration for the proposed vibratory pile removal and pile driving activities. Based on the estimates, approximately 150 Pacific harbor seals, 25 California sea lions, 15 northern elephant seals, 25 Steller sea lions, 50 harbor porpoises, 15 Dall's porpoises, 15 Pacific white-sided dolphins, 32 killer whales (24 transient, 8 Southern Resident killer whales), 4 gray whales, 4 humpback whales, and 10 minke whales could be exposed to received noise levels above 120 dB re 1 µPa (rms) from the proposed dolphin replacement work at the Orcas Island ferry terminal. In addition, approximately

200 Pacific harbor seals, 50 California sea lions, 30 northern elephant seals, 50 Steller sea lions, 100 harbor porpoises, 30 Dall's porpoises, 30 Pacific white-sided dolphins, 32 killer whales (24 transient, 8 Southern Resident killer whales), 4 gray whales, 4 humpback whales, and 10 minke whales could be exposure to received noise levels above 120 dB re 1 µPa (rms) from the proposed dolphin replacement work at the Friday Harbor ferry terminal. A summary of the estimated takes is presented in Table 2.

Table 2. Estimated numbers of marine mammals that may be exposed to received pile driving and pile removal levels above 120 dB re 1 µPa (rms)

Species	Orcas Island Ferry Terminal	Friday Harbor Ferry Terminal	Total
Pacific harbor seal	150	200	350
California sea lion	25	50	75
Northern elephant seal	15	30	45
Steller sea lion	25	50	75
Harbor porpoise	50	100	150
Dall's porpoise	15	30	45
Pacific white-sided dolphin	15	30	45
Killer whale, transient	24	24	48
Killer whale, Southern Resident	8	8	16
Gray whale	4	4	8
Humpback whale	4	4	8
Minke whale	10	10	20

The requested takes represent 2.4% of the Inland Washington stock harbor seals (estimated at 14,612), 0.03% of the U.S. stock California sea lion (estimated at 238,000), 0.04% of the California stock northern elephant seal (estimated at 124,000), 0.15% of the eastern stock Steller sea lion (estimated at 48,519), 1.4% of the Washington Inland waters stock harbor porpoise (estimated at 10,682), 0.08% of the California, Oregon, and Washington stock Dall's porpoise (estimated at 57,549), 0.18% of the California, Oregon, and Washington stock Pacific white-sided dolphin (estimated at 25,233), 13.6% of the West Coast transient killer whale (estimated at 354), 19.0% of Southern Resident killer whale (estimated at 84), 0.02% of the Eastern North Pacific stock gray whale (estimated

at 26,000), 0.7% of the Eastern North Pacific stock humpback whale (estimated at 1,100), and 4% of the California/Oregon/Washington stock minke whale (estimated at 500).

Negligible Impact and Small Numbers Analysis and Preliminary Determination

Pursuant to NMFS' regulations implementing the MMPA, an applicant is required to estimate the number of animals that will be "taken" by the specified activities (i.e., takes by harassment only, or takes by harassment, injury, and/or death). This estimate informs the analysis that NMFS must perform to determine whether the take resulting from the activity will have a "negligible impact" on the species or stock. Level B (behavioral) harassment occurs at the level of the individual(s) and does not assume any resulting population-level consequences, though there are known avenues through which behavioral disturbance of individuals can result in population-level effects. A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (i.e., population-level effects). An estimate of the number of Level B harassment takes alone is not enough information on which to base an impact determination.

In addition to considering estimates of the number of marine mammals that might be "taken" through behavioral harassment, NMFS considers other factors, such as the likely nature of any responses (their intensity, duration, etc.), the context of any responses (critical reproductive time or location, migration, etc.), as well as the number and nature of estimated Level A takes, the number of estimated mortalities, and effects on habitat.

The WSDOT's proposed Orcas Island and Friday Harbor ferry terminal construction projects would conduct vibratory pile removal and pile driving to replace dolphin structures. Elevated underwater noises are expected to be generated as a result of

pile removal and pile driving activities. However, noise levels from the machinery and activities are not expected to reach to the level that may cause TTS, injury (PTS included), or mortality to marine mammals. Therefore, NMFS does not expect that any animals would experience Level A (including injury) harassment or Level B harassment in the form of TTS from being exposed to in-water pile driving and pile removal associated with WSDOT construction project.

Based on long-term marine mammal monitoring and studies in the vicinity of the proposed construction areas, it is estimated that approximately 350 Pacific harbor seals, 75 California sea lions, 45 northern elephant seals, 75 Steller sea lions, 150 harbor porpoises, 45 Dall's porpoises, 45 Pacific white-sided dolphins, 64 killer whales, 8 gray whales, 8 humpback whales, and 20 minke whales could be exposure to received noise levels above 120 dB re 1 μPa (rms) from the proposed construction work at Orcas Island and Friday Harbor ferry terminals. These numbers represent approximately 0.03% - 19.0% of the stocks and populations of these species could be affected by Level B behavioral harassment. As mentioned earlier in this document, the worst case scenario for the proposed construction work would only take a total of 5 days at Orcas Island ferry terminal and 10 days at the Friday Harbor ferry terminal.

In addition, these low intensity, localized, and short-term noise exposures (i.e., 120 dB re 1 μPa (rms) from vibratory pile removal and pile driving for a total of 15 days) are expected to cause brief startle reactions or short-term behavioral modification by the animals. These brief reactions and behavioral changes are expected to disappear when the exposures cease. In addition, no important feeding and/or reproductive areas of marine mammals is known to be near the proposed action area. Therefore, these levels of

received underwater construction noise from the proposed Orcas Island and Friday Harbor ferry terminal construction projects are not expected to affect marine mammal annual rates of recruitment or survival. The maximum estimated 120 dB maximum isopleths from vibratory pile driving is approximately 3.5 km at Orcas Island and 4.7 km at Friday Harbor from the pile before being blocked by landmass, respectively.

The nearest known haulout site to the Orcas Island ferry terminal is 1 km away south of the terminal offshore of Shaw Island, and 4 km northeast of the Friday Harbor ferry terminal offshore of Shaw Island. However, it is estimated that airborne noise from pile driving and removal would fall below 90 dB and 100 dB re 1 20 µPa at 37 m and 12 m from the pile, respectively. Therefore, pinnipeds hauled out on Shaw Island will not be affected.

For the reasons discussed in this document, NMFS has preliminarily determined that the impact of vibratory pile removal and pile driving associated with dolphin replacements at Orcas Island and Friday Harbor ferry terminals would result, at worst, in the Level B harassment of small numbers of 11 marine mammals that inhabit or visit the area. While behavioral modifications, including temporarily vacating the area around the construction site, may be made by these species to avoid the resultant visual and acoustic disturbance, the availability of alternate areas within Washington coastal waters and haul-out sites has led NMFS to preliminarily determine that this action will have a negligible impact on these species in the vicinity of the proposed construction area.

In addition, no take by TTS, Level A harassment (injury) or death is anticipated and harassment takes should be at the lowest level practicable due to incorporation of the mitigation and monitoring measures mentioned previously in this document.

Proposed Incidental Harassment Authorization

This section contains a draft of the IHA itself. The wording contained in this section is proposed for inclusion in the IHA (if issued).

1. This Authorization is valid from May 1, 2013, through February 15, 2014.

2. This Authorization is valid only for activities associated in-water construction work at Orcas Island and Friday Harbor ferry terminals in the State of Washington.

3. (a) The species authorized for incidental harassment takings, Level B harassment only, are: Pacific harbor seal (Phoca vitulina richardsi), California sea lion (Zalophus californianus), northern elephant seal (Mirounga angustirostris), Steller sea lion (Eumetopias jubatus), harbor porpoise (Phocoena phocoena), Dall's porpoise (Phocoenoides dalli), Pacific white-sided dolphin (Lagenorhynchus obliquidens), killer whale (Orcinus orca), gray whale (Eschrichtius robustus), humpback whale (Megaptera novaeangliae), and minke whale (Balaenoptera acutorostra).

(b) The authorization for taking by harassment is limited to the following acoustic sources and from the following activities:

(i) Vibratory pile removal; and

(ii) Vibratory pile driving.

(c) The taking of any marine mammal in a manner prohibited under this Authorization must be reported within 24 hours of the taking to the Northwest Regional Administrator (206-526-6150), National Marine Fisheries Service (NMFS) and the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, at (301) 427-8401, or his designee (301-427-8418).

4. The holder of this Authorization must notify the Chief of the Permits and Conservation Division, Office of Protected Resources, at least 48 hours prior to the start of activities identified in 3(b) (unless constrained by the date of issuance of this Authorization in which case notification shall be made as soon as possible).

5. Prohibitions

(a) The taking, by incidental harassment only, is limited to the species listed under condition 3(a) above and by the numbers listed in Table 2. The taking by Level A harassment, injury or death of these species or the taking by harassment, injury or death of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this Authorization.

(b) The taking of any marine mammal is prohibited whenever the required protected species observers (PSOs), required by condition 7(a), are not present in conformance with condition 7(a) of this Authorization.

6. Mitigation

(a) Ramp Up (Soft Start):

Vibratory hammer for pile removal and pile driving shall be initiated at reduced power for 15 seconds with a 1 minute interval, and be repeated with this procedure for an additional two times.

(b) Marine Mammal Monitoring:

Monitoring for marine mammal presence shall take place 20 minutes before, during and 30 minutes after pile driving to ensure that marine mammals are not injured by the construction activities.

(c) Power Down and Shutdown Measures

If the number of any allotted marine mammal takes reaches the limit under the IHA (if issued), WSDOT shall implement shutdown and power down measures if such species/stock of animal approaches the Level B harassment zone.

7. Monitoring:

(a) Protected Species Observers: WSDOT shall employ qualified protected species observers (PSOs) to monitor the 120 dB re 1 μPa (rms) zone of influence (ZOI) for marine mammals. Qualifications for marine mammal observers include:

(i) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars may be necessary to correctly identify the target.

(ii) Advanced education in biological science, wildlife management, mammalogy or related fields (bachelors degree or higher is preferred), but not required.

(iii) Experience or training in the field identification of marine mammals (cetaceans and pinnipeds).

(iv) Sufficient training, orientation or experience with the construction operation to provide for personal safety during observations.

(v) Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area as necessary.

(vi) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).

(vii) Writing skills sufficient to prepare a report of observations that would include such information as the number and type of marine mammals observed; the behavior of marine mammals in the project area during construction, dates and times

when observations were conducted; dates and times when in-water construction activities were conducted; and dates and times when marine mammals were present at or within the defined ZOI.

(b) Monitoring Protocols: PSOs shall be present on site at all times during pile removal and driving.

(i) A range finder or hand-held global positioning system device will be used to ensure that the 120 dB re 1 μPa (rms) Level B behavioral harassment ZOI is monitored.

(ii) A 20-minute pre-construction marine mammal monitoring will be required before the first pile driving or pile removal of the day. A 30-minute post-construction marine mammal monitoring will be required after the last pile driving or pile removal of the day. If the constructors take a break between subsequent pile driving or pile removal for more than 30 minutes, then additional pre-construction marine mammal monitoring will be required before the next start-up of pile driving or pile removal.

(iii) If marine mammals are observed, the following information will be document:

(A) Species of observed marine mammals;

(B) Number of observed marine mammal individuals;

(C) Behavioral of observed marine mammals;

(D) Location within the ZOI; and

(E) Animals' reaction (if any) to pile-driving activities

(iv) During vibratory pile removal and driving, one land-based biologist will monitor the area from the terminal work site, and one boat with a qualified PSO shall navigate the ZOI in a circular path.

(v) WSDOT shall contact the Orca Network and/or Center for Whale Research to find out the location of the nearest marine mammal sightings.

(vi) WSDOT shall also utilize marine mammal occurrence information collected by the Orca Network using hydrophone systems to maximize marine mammal detection in the project vicinity.

8. Reporting:

(a) WSF shall provide NMFS with a draft monitoring report within 90 days of the conclusion of the construction work. This report shall detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed.

(b) If comments are received from the NMFS Northwest Regional Administrator or NMFS Office of Protected Resources on the draft report, a final report shall be submitted to NMFS within 30 days thereafter. If no comments are received from NMFS, the draft report will be considered to be the final report.

9. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein or if the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals, or if there is an unmitigable adverse impact on the availability of such species or stocks for subsistence uses.

10. A copy of this Authorization and the Incidental Take Statement must be in the possession of each contractor who performs the construction work at Orcas Island and Friday Harbor ferry terminals.

11. WSDOT is required to comply with the Terms and Conditions of the Incidental Take Statement corresponding to NMFS' Biological Opinion.

National Environmental Policy Act (NEPA)

NMFS is currently preparing an Environmental Assessment, pursuant to NEPA, to determine whether or not this proposed activity may have a significant effect on the human environment. This analysis will be completed prior to the issuance or denial of the IHA.

Endangered Species Act (ESA)

The humpback whale, Southern Resident stock of killer whale, and the eastern population of Steller sea lions, are the only marine mammal species currently listed under the ESA that could occur in the vicinity of WSDOT's proposed construction projects. NMFS' Permits and Conservation Division has initiated consultation with NMFS' Protected Resources Division under section 7 of the ESA on the issuance of an IHA to WSDOT under section 101(a)(5)(D) of the MMPA for this activity. Consultation will be concluded prior to a determination on the issuance of an IHA.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to authorize the take of marine mammals incidental to WSDOT's Orcas Island and Friday Harbor ferry terminal construction projects, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated.

Dated: February 5, 2013.

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Helen M Golde,
Acting Director,
Office of Protected Resources,
National Marine Fisheries Service.

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